R E P O R T R E S U M E S

ED 003 438 24

PREPARATORY STUDY FOR A HIGH SCHOOL CURRICULUM IN THE FINE ARTS FOR ABLE STUDENTS.

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REPORT NUMBER CRP-H-188 PUB DATE 64
EDRS PRICE MF-$0.09 HC-$1.04 26P.

DESCRIPTORS- *FINE ARTS, CULTURAL ENRICHMENT, *CURRICULUM DEVELOPMENT, *INSTRUCTIONAL MATERIALS, HIGH SCHOOL STUDENTS, GIFTED, *ABLE STUDENTS, *TEACHER EXPERIENCE, PITTSBURGH, PENNSYLVANIA

THIS PRELIMINARY STUDY WAS DIRECTED TOWARD (1) DEVELOPING A RATIONALE AND SERIES OF COURSES FOR A 5-YEAR PROGRAM IN THE FINE ARTS FOR ABLE STUDENTS IN SECONDARY SCHOOLS, (2) FINDING WAYS TO RELATE THE EXPERIENCES IN THE ARTS TO OTHER CURRICULAR EXPERIENCES, AND (3) DEVELOPING WAYS TO PREPARE TEACHERS FOR THE NEW FINE ARTS CURRICULUM. A SERIES OF MEETINGS BROUGHT TOGETHER CONSULTANTS, COLLEGE REPRESENTATIVES, AND PUBLIC SCHOOL OFFICIALS. AS A RESULT OF THE MEETINGS, TWO WORKING PAPERS ON FINE ARTS INSTRUCTION WERE DEVELOPED. (THEY ARE PRESENTED IN THE APPENDIXES OF THE REPORT.) OTHER MEETINGS OF EXPERIENCED TEACHERS WERE DIRECTED TOWARD FEASIBILITY STUDIES, PROCEDURAL PLANNING, AND DEVELOPMENT OF TEACHING METHODS. THE EXPERIENCED TEACHERS REPORTED THAT--(1) A VALID AND MEANINGFUL PROGRAM IN THE FINE ARTS COULD BE DEVELOPED, AND (2) SUCH A PROGRAM WOULD HAVE SIGNIFICANT VALUE IN AIDING YOUNG PEOPLE TO UNDERSTAND THE FUNCTION OF THE ARTS IN AMERICAN SOCIETY. IN THE TIME AVAILABLE, THE OVERALL PROGRAM COULD NOT BE DEVELOPED IN DETAIL. THE DEVELOPMENTAL PROGRAM CONDUCTED WAS IN THREE PHASES--(1) VALIDITY OF WORKING PAPER OBJECTIVES, (2) BASES FOR CURRICULUM DEVELOPMENT, AND (3) STEPS NECESSAR. TO DEVELOP CLASSROOM MATERIALS. (JC)

Accepted
12-21-64

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE
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PREPARATORY STUDY FOR A HIGH SCHOOL CURRICULUM IN THE FINE ARTS FOR ABLE STUDENTS

Cooperative Research Project No. H-188

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1964

The research reported herein was supported by the Cooperative Research Program of the Office of Education, U. S. Department of Health, Education, and Welfare.

ED 003438

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SECTION I. THE PROBLEM

The arts have not been given notable attention as a part of general education at secondary school levels in this country. Ample provision is made, of course, in many schools for talented students motivated toward the arts, though the quality of such offerings varies greatly across the country, and the performance-centered attitudes of specialized teachers, fostered by pressures from diverse sources toward better marching bands, choral groups, orchestras, exhibitions and other kinds of public performance tend to make the arts the exclusive province of students and teachers with superior skills. Sometimes the arts are presented as something more than technical exercises, sometimes not. The essential point would seem to be that participation in the activity of a single art tends to restrict acquaintances with the arts generally, and for many students, under increasing academic pressures to move farther and faster into the stream of so called 'serious' academic effort, contacts with the arts have been closed off at some level in their secondary education, and they have been encouraged to devote most of their energies to those subjects which the colleges, as guardians of the gate to higher learning, have accepted as standard.

Because the arts have been largely taught as skills in the schools, they have been largely ignored by the colleges as credentials for college admission except in the case of students whose motivation and demonstrated capacity for artistic development have already qualified them for acceptance into special college programs in drama, music, painting, dance, or some related option. For these students there are no particular problems. They have ability, it has

been cultivated and to some degree at least encouraged, and professional schools and colleges with suitable programs are glad to get them. Their general education must eventually grow out of the artist's need to search for an understanding of the world beyond that which is mandated by mastery of his own technical materials.

For these committed students then, while problems exist, they are not problems of understanding the implication of the arts in life. But for another large group of students, denied by lack of special art aptitudes from participation in established programs, and discouraged from experimentation by the imposition of qualitative performance standards as well as by the exingencies of an increasingly burdened academic program, any view of the arts as a central activity of man is lost, perhaps forever. For them, lack of understanding of the arts ultimately breeds mistrust, and it takes in some cases many years (if ever) for the arts to regain in the lives of such people the kind of importance which is the legitimate claim of every man against his cultural heritage.

For those who are intellectually gifted, the constraints against the development of sensory awareness (which is the first demand the arts make on human beings) have increased enormously as other secondary school programs have been sharpened and extended. To a larger and larger extent, the arts have become the curricular pools into which many students with no particular goals have drifted (or have been tossed), a process which has benefitted neither the student nor the arts, and which has inhibited the growth of significant art programs for students who have general educational goals and superior intellectual gifts.

In the Pittsburgh schools, an approach to the education of intellectually gifted students which takes into account their capacity to perform exacting academic tasks in fewer classroom hours as well as at greater depths, and which recognizes the ways in which an understanding of the arts can enhance the lives of men and women, has provided the opportunity for an unprecedented program in the arts for intellectually able students at secondary school levels (grades VIII-XII).

It is for the development of this program that the College of Fine Arts at Carnegie Institute of Technology has been asked to give assistance to the Pittsburgh Public Schools, and toward which the preliminary study which is the subject of this report has been directed.

SECTION II. OBJECTIVES

The College of Fine Arts, Carnegie Institute of Technology, with the encouragement and cooperation of the Pittsburgh Public Schools, prepared in the spring of 1964, a proposal to the Office of Education for the support of a preliminary study directed toward this three-fold purpose:

1. To develop a rationale and a suggested series of courses for a five-year program in the fine arts for able students in American secondary schools.

2. To find ways, where possible, to relate the experiences in the arts to other curricular experiences, through close cooperative efforts with curriculum experts from other disciplines.

3. To develop ways to prepare teachers for the new curriculum.

SECTION III. PROCEDURE

On July 15, 1964 the College was informed that its proposal, carrying a budget of $19,847.00 had been approved by the Office of Education (Project Number H-188).

Because some of the consultants named in the proposal were by that time otherwise committed for the summer months, it was necessary to modify somewhat both the format of procedure and the personnel involved. A series of planning meetings brought together, in July, representatives of the College and the Pittsburgh Public Schools and an off-campus consultant to discuss the implications of the program, the procedures to be followed, and the best persons to be brought together to work intensively on the development of both ideas and methods. As a result of these meetings, two working papers were circulated, the first tentative, the second more developed. (Appendices A and B)

Beginning August 1, 1964, a selected group of experienced teachers under the joint chairmanship of Lee Goldman, Head of the Department of Painting, Design and Sculpture, Carnegie Institute of Technology, and Douglas Wilson, formerly a member of the design faculty, Carnegie Institute of Technology, met daily to study feasibility, to plan procedures, and to develop teaching methods. The names of the individuals who undertook this assignment and their qualifications are appended. (Appendix C)

On August 17 the group reported that 'a valid and meaningful' program in the arts could be developed, and that such a program would have significant value in aiding young people to understand the function of the arts in our society. Even

at this early stage it was apparent that preparing teachers to undertake instruction at the experimental, innovative levels being discussed would eventually become critical to the success of the program. Certain parts of the problem of presentation were given intensive study, but in the restricted time available the over-all program could not be developed in detail. There was sufficient evidence of productive outcomes from this kind of teaching to generate in the study group a high level of enthusiasm. The conveyance of an equal measure of enthusiasm to other teachers (whose success in specialized study areas may have been the result of highly effective teaching skills and security within a limited problem range) is a major factor in the success of any multi-faceted approach of the kind now under consideration.

The study group considered the program in three phases:

Phase I
The validity and inclusiveness of the objectives set forth in the working papers were considered and tested.

Phase II
The bases for the development of curricula for grades VIII-XII were investigated.

Phase III
The study group addressed itself to a consideration of the steps necessary to turn the philosophical concepts developed in Phase I and Phase II into effective classroom material.

SECTION IV. CONCLUSIONS

Phase I

The arts are a product of the total environment of man, and in turn have a formative influence upon that environment. The problems which the arts propound are not significantly removed in kind from the problems of the sciences and the humanities, though the arts have unique characteristics of both approach and language.

It is awareness of these characteristics and familiarity with their generative powers that can lead to new insight into many of the problems of our complex lives. The values of systematic study of the arts as essential phenomena can be projected into the creation of ideas and structures in many disciplines. This conclusion is basic to the statement submitted in Memorandum No. 1. The committee reported as follows on this phase of the developed program:

> Following is a summary of the discussions of the teacher groups studying the scholars program in the arts.
>
> Major conclusion: It is felt by the group that it is possible to present a valid and meaningful picture of the arts within the time framework discussed earlier and the objectives as stated in paper titled, "High School Curriculum Project — Scholars Program — Fine Arts."
>
> It is our feeling that this type of program can fill an urgent need of young students to understand the function of the arts in our society.
>
> The group concluded that a program based upon the assumptions and approaches listed below could operate most effectively:
>
> 1. If the program were presented out of normal (one hour time segments — standard high school art room) time and place envirnoments. It is suggested that classes meet three times a week for two hours — devoting one hour of the last session to a review of the week's work.

2. If the teaching job were taken over by a team of teachers in order to prevent the development of a class bias on behalf of a single art.

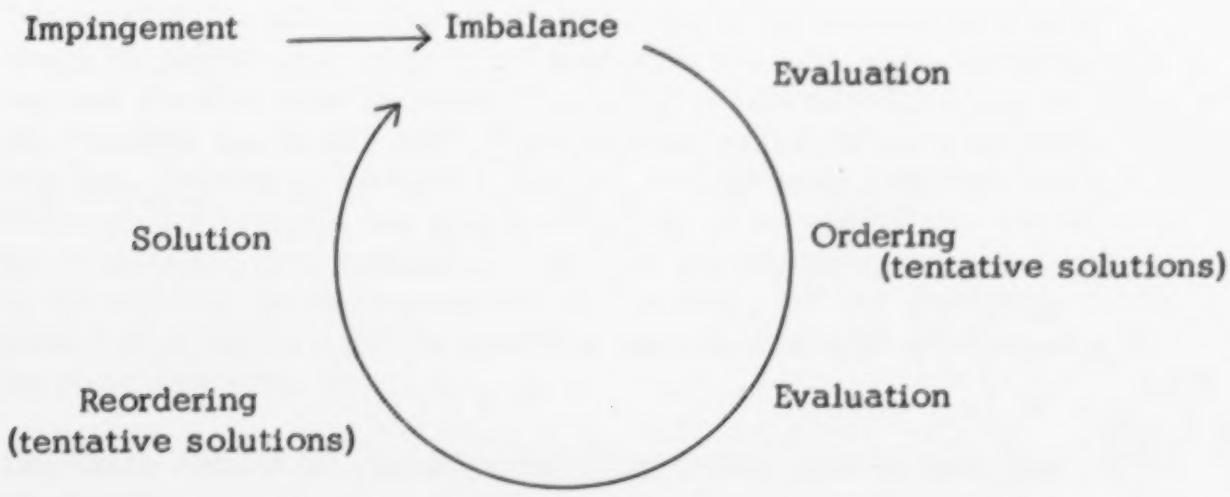
3. If the teachers selected for this program were trained in the techniques required by this new type of program.

4. If we do not assume that technical proficiency is a goal of the program (no exhibitions, concerts, etc.).

The following assumptions were accepted as a basis for developing the program:

1. The arts are developed to serve a basic need of human beings which is to observe and make statements about the physical and spiritual environment in which they live and hope to live. In other terms, this is equally the concern of the sciences and the humanities.

2. Action results from impingements upon existing systems. If the stimulation varies, the reaction varies. This might be diagrammed in the following manner:



3. Everything we know we know comes through 'the screen of the senses'.

4. Everyone (including students) is conditioned. We must develop problems on the basis of what is known or discoverable in order to develop a wider base for understanding and tolerance for all phenomena.

5. Order and disorder are parts of a continuum in all human activity (including the arts). The arts can and should be taught as a continuum.

6. It is possible to develop awareness of all of the arts as a unity, rather than as isolated parts or areas, if we do not insist upon direct parallels. (The presence of the auditory arts is evidence of a lack of the ability of the visual arts to express some emotions or ideas, etc.).

7. The arts presuppose the attitude that emotion and intellect are equally valid in knowing and expressing.

8. The relationship between symbols and reality is often lost. We use symbols out of habit (without full awareness) with the result that they often become pale and possibly meaningless.

The following approach has been discussed and retained for development:

Present the student with a total picture of the arts through stimulation of his awareness of self and the world around him. The process would involve first developing awareness of a wide range of phenomena without reference to the arts — by confronting the student with experiences which would convince him of the validity and value and scope of sensory experience (seeing, hearing, touching, smelling, tasting — and their inter-actions). Early in the program the means of all the non-verbal arts would be introduced, and emphasis would be placed upon developing in the student an awareness of (1) systems, (2) the changing nature of systems, (3) the need for questioning and challenging existing systems.

Emphasis should be placed upon doing rather than on passive reception.

Reference should be made to verbal and mathematical language to illustrate the areas of expression in which these can operate most effectively.

Relationships between the arts should be emphasized. It is felt that the arts can be taught as a unity only if dissimilarities as well as similarities are pointed out — emphasis should be placed upon the continuum rather than on the dichotomy principle.

It is felt that some aspect of the total concept should be presented during each time segment (one year) rather than developing a focus upon one of the arts for an extended length of time (one semester — one year).

The study group must be concerned with investigating types of experiences to be presented to students and the time sequence to be used in their introduction.

Phase II

After examining many alternatives, agreement was reached on the reasonableness of the following sequence:

A. Investigation of the nature of the senses as a means of discovering, evaluating and knowing the world.

B. The nature of elements and the nature of the ordering process.

C. The nature of the evaluating process.

A series of typical experiences or problems developed from the above progression. These were reported as follows:

TOWARD DEVELOPING AN AWARENESS OF THE SENSES

MEANS (typical examples)

Ask students to collect natural and man-made objects — to be examined and analyzed from as many viewpoints as possible — color, size, shape, texture, how created, how they have been altered by forces of nature and man, noise-sound characteristics, etc.

Above exercise developed with focus established by teacher, i.e., find as many red objects or round objects as possible.

Ask students to draw or make of clay as many forms as they can imagine.

Develop a controlled environment (a room designed to give a wide range of sensory experiences — various textures on floor and ceiling — changing light and color patterns, sound patterns — temperature patterns — ask students to describe their experiences while in the room.

Students might be asked to report in a similar manner on "happenings" during a one minute walk in the park or to describe things discovered in the classroom.

Have students design and build a "sensory room."

Ask students to identify recorded sounds.

Ask students to make sound machines (not copies of existing instruments).

Ask students to make as many patterns as possible using a limited vocabulary of images, then sounds, then movements.

Ask students to relate symbols, sounds, movements to things and ideas.

Ask students to use symbols, sounds, movements to create a mood.

Expose students to a slide sequence putting visual symbols and sounds in unusual context, i.e., (slide one, an elephant; slide two, a butterfly; slide three, a drawing showing elephant smaller than butterfly; slide four, superimpose elephant photo on butterfly photo).

Ask students to make a similar slide sequence showing unusual juxtapositions of common objects.

Literally hundreds of exercises were discussed all aimed at:

1. Increasing the student's awareness of and sensitivity to things around him.

2. Developing a fuller, richer understanding of the vocabulary of the arts.

3. Increasing the students' desire and ability to be more aware of auditory, visual and kinetic phenomena.

4. Developing the concept that the word is not the only means capable of communicating ideas and describing things.

TOWARD DEVELOPING AN AWARENESS OF ELEMENTS AND ORDERING

MEANS (typical examples)

Ask students to organize visual elements into recognizable patterns.

Ask students to organize sound elements into recognizable patterns.

Ask students to organize movement elements into recognizable patterns.

Ask students to use a sound, a movement and a visual element to make a statement.

Ask students to experiment with changing an element by changing its environment or context.

Ask students to make auditory, graphic, kinetic symbol for ideas and objects.

Ask students to develop a sound notation system.

Ask students to develop a kinetic notation system, etc.

Again literally hundreds of typical problems were developed with the purpose of acquainting students with the wide range of possibility for expression with a limited and an enlarged vocabulary of elements.

TOWARD DEVELOPING AN AWARENESS OF THE EVALUATING PROCESS

The students would be asked to analyze and synthesize as in earlier phases, but the materials would be strictly those of the arts, the added dimensions of cultural conditioning — historical conditioning, geographic conditioning, etc., would be involved.

The students would be encouraged to make critical judgements of each other's creations — would be exposed to the social implications of the arts.

Recommendations

A. The study group recognizes that:

1. The study has, by necessity, dealt broadly with problems which ultimately require more exacting examination.

2. The absence from the deliberations of representatives from certain major disciplines (science, philosophy, psychology and others) limits the completeness of the findings.

3. After four weeks of intensive discussion, the group may have developed its own bias.

As a conclusion drawn from the above, the group recommends that in the reestablishment of the study, representatives from the sciences and the humanities be introduced and that from time to time critics should be invited to participate in the adjudication and evaluation of the program.

B. The study group recognizes the dangers which are inherent in presenting a fully 'spelled out' program to teachers. Individuals differ in both imaginative reach and philosophical insight; classes will vary in receptivity and response, and school facilities will differ in both quality and kind.

In view of the above, a group of selected teachers should be assembled to develop more complete study materials and examine the philosophical underpinnings of this project in a context of broad teaching experience. At the same time a prototype class of classes of students should be formed. This group should be constituted in such a way that the effectiveness of the developing program can be assessed in a realistic manner.

C. Because of the implications of this program for other elements of the Scholars Program, it is recommended that provision be made for frequent consultation with representatives of such parallel programs in the schools.

D. The concern of the members of the study group extends to the environment in which complex ideas are to be projected. It is recommended that pre-established time and space limitations in the schools be modified to provide longer work-study periods and more flexibility of space use than ordinarily are available in standard classrooms.

APPENDIX A

WORKING PAPER I

Planning Meetings — July 1-2, 1964, Carnegie Institute of Technology

Pittsburgh Public Schools:
Mary Molyneaux, Jacob A. Evanson, Philip McPherson, Ruth Ebken, Bernard McCormick, Stanley Levin

Carnegie Institute of Technology:
Marta Sanchez, Lee Goldman, Douglas Wilson, Orville Winsand, Norman Rice

Critic: Alan Blackmer, Phillips Andover Academy

Purpose:

1. To develop a rationale and a suggested series of courses for a five-year program in the fine arts for able students in American secondary schools.

2. To find ways, where possible, to relate the experiences in the arts to other curricular experiences, through close cooperative efforts with curriculum experts from other disciplines.

3. To develop ways to prepare teachers for the new curriculum.

1. The discussions ranged broadly over the characteristics of students to be taught, the ordering of concepts, limitations and opportunities of the program, the readiness of students in technical matters, and (superficially) the qualities of the arts and their relevance to other elements in our society.

   Conversations were kept to broad issues as much as possible. While personal testimony has its importance, the chairman attempted to avoid anecdote in these introductory sessions. The discovery of areas of mutual understanding was encouraged, however, and these areas were extended to develop conceptual patterns in preliminary form.

2. After a series of brief excursions into the intricacies of this problem, a desire to clarify concepts emerged. It was apparent that the following categories were being developed:

a. Primary concepts: The ideas to be presented, identifiable through their inclusiveness, their pervasiveness, their applicability to the arts.

b. Secondary concepts: The channels through which the arts are presented, through which they affect the other disciplines and each other.

c. The means — the ways the arts come into being, the technical processes, the forces which motivate action in the arts.

d. The resultants: the aims to be achieved; the outcome, in social usefulness, to be desired.

A tabulation is given herewith as the basis for comment and for the use in the formulation of a program.

IDEAS	CHANNELS	MEANS	RESULTANT
	Experience	Proportion	
	Environment		Organization
Order	Relationship		Form
	Proportion		
	Scale	Scale	
	Culture		Tolerance
	Time	Time	
	Space	Space	
Emotion	Invention	Invention	Invention
	Awareness	Observation	Awareness
	Logic		Discrimination
	Structure	Structure	Knowledge
	Movement	Movement	
	Feeling	Light	Sensitivity
Purpose	Use	Sounds	Courage
	Unity	Gesture	Understanding
	Diversity	Words	
	Intellect	Colors	Intellect
Use	Variation	Shapes	
	Communication	Values	Communication
		Textures	
	Vocabulary	Tones	Evaluation
	Evaluation	Interval	
Change	Effect	Effect	Insight
	Illusion	Symbols	
		Skills	
	Control	Materials	Control
Form	Mood	Balance	Use
	Synthesis		

3. A charge to the members of this group: They are urged

A. to adjust, augment, or reject terms in the categories as listed.

B. to question the structure of our planning and suggest revisions.

C. to propose a sequence of next steps to be followed.

D. to suggest personnel for both planning and teaching in the program.

APPENDIX B

WORKING PAPER II

THE OBJECTIVES

1. To develop understanding of the arts* as interior forces, not as something to be casually observed, but as something to be experienced as a participant.

2. To expand the whole network of non-verbal, non-mathematical, non-scientific learning to the end that students will become more aware of their own responses and more understanding of the responses of others, and can accept feeling and emotion as legitimate expressive means.

3. To explore the nature of materials, the logic of structure, the ways in which color, movement, sound, gesture, design, scale, and all the other forces common to the arts can be employed to extend meaning or enhance effect.

4. To coordinate the logic inherent in the arts with the logic of language, of science, of mathematics, of social institutions. To build understanding between disciplines and recognition of their interdependence.

5. To increase awareness of the arts as adult enterprises, build standards for their evaluation, discover the sources of quality in the use of expressive means.

* The areas: visual arts, music, dance and the non-literary aspects of theater.

THE MEANS

1. Through materials — any materials, tangible or intangible — employed by artists.

2. Through whatever processes are necessary to the manifestations of concepts.

3. Through whatever use of resources in nature and in man-made objects may reinforce observation, analysis or statement.

4. Through all the conventional channels of communication and projection of ideas, and through the use of any new devices that can be conceived.

THE SCOPE

Immediate objective is a grade VIII program, designed to initiate a five year program terminating at the end of grade XII.

The students are presumably intelligent, alert, normally inquisitive. We cannot assume talent in any art, nor should the course be shaped to depend on talent, though it may recognize any special aptitude as a force in developing an 'idea' in the classroom. Ideally, no student should be judged as satisfactory or inadequate because of native aptitude in any of the arts. This advantage cannot, of course, be concealed; but it should become an enhancement of the total teaching resource rather than a measure of value. The program, in short, is not an art program in any conventional sense. It begins with exploration and ends with understanding; it may, as a by-product, excite the desire to proceed along professional paths. If individual students in this group already have an identifiable incentive to become professional artists, (though this is unlikely to be defined at grade VIII levels) they should perhaps be dealt with on a different basis.

The safe assumption is that these students will emerge from the educational process at one of its upper levels, and will proceed into all kinds of adult activities. This program should touch their lives in such a way that all the arts will become for them a natural source of refreshment and intelligent concern, not self-conscious, not mysterious, not hostile, but immediate and enduring.

APPENDIX C

PARTICIPANTS — PITTSBURGH PUBLIC SCHOOLS

Viola Brosky

B.S., M.E., University of Pittsburgh
Miss Brosky has been a teacher of art in the Pittsburgh elementary and secondary schools and is presently teaching art at the South Hills High School. For two and a half years following World War II she was on the staff of the American Red Cross as director of recreational activities for convalescent military personnel. She has served on high school evaluation committees in the Pittsburgh area and on art curriculum committees in the Pittsburgh schools.

Gretchen Jacob

B.F.A. and graduate work, Carnegie Institute of Technology
Mrs. Jacob has taught art in the elementary, junior and senior high schools in Pittsburgh and is presently teaching art at the Taylor Allderdice High School. She served as a docent in art appreciation and history and conducted classes in creative painting with young children at Carnegie Institute. She organized and for two years directed the Art Caravan of the Pittsburgh Plan for Art, a free lending program of contemporary art to local schools. She has done production work on educational television station WQED and is an accomplished performer of folk music. She has served on local art juries and on Regional Scholastic Art juries. She has participated on programs of Eastern Arts and the Pennsylvania Art Education Association and has served on art curriculum committees for the Pittsburgh schools.

Richard Price

B.A., M.Lit., University of Pittsburgh
Mr. Price has been a teacher of English in the Allegheny County and Pittsburgh schools and is presently teaching English at Carrick High School. He has done production work for educational television station WQED, and has been editor of Clairton Progress, a suburban newspaper. During World War II he was a news and information writer for the United States Army. In the summer of 1960 he studied in Paris, France.

Margaret Reckard

A.B., Chatham College, M.Ed., University of Pittsburgh
Miss Reckard has been a teacher of music in the elementary schools of Pittsburgh and is presently teaching at Morningside, an eight-grade elementary school. Following graduation from Chatham College she attended the Juilliard School of Music. She was active in the KDKA Radio Workshop and Pittsburgh Concert Society. For many years she has been a church soloist and a director of young people's church music groups.

Christine Skoda

B.S. in Music Education, Duquesne University
M.A., Columbia University
Miss Skoda has been a teacher of music in the elementary and secondary schools of Pittsburgh and is now teacher of instrumental music at the Latimer Junior High School. She has played with community symphony orchestras, string quartets, and chamber music groups. For many years she has attended and participated in the Music Educators National Conference and the Pennsylvania Music Educators Conference. She also has served on music curriculum committees in the Pittsburgh schools. In 1955 she took a ten-week study tour of Scandinavian and European countries.

Lloyd Welling

B.A., University State of New York; M.Ed., University of Pittsburgh
Mr. Welling has been a teacher in the secondary schools of Pittsburgh and is presently teaching English at the Taylor Allderdice High School. He received his master's degree as a Ford Foundation teaching intern. During the summers of 1963 and 1964 he participated in the Summer Institute in Visual Perception at Phillips Academy, Andover, Massachusetts. In November, 1963, he met with a group at Andover to confer and to report on work being done in visual perception in the schools.

PARTICIPANTS — CARNEGIE INSTITUTE OF TECHNOLOGY

Lee Goldman

Graduate, Carnegie Institute of Technology (BFA).
Additional studies: Randolph-Macon College and University of Tampa.
Designer, director of design, Corning Glass Works.
Private and industrial design practice. Industrial design faculty and head of department of Painting, Design and Sculpture, Carnegie Institute of Technology.

Peggy Kwong Gordon

Studied City College of San Francisco (A.A.), University of California (Berkeley), B.S. in Chemistry. B.F.A. in Painting, Carnegie Institute of Technology. Research experience at Donner Radiation Laboratory (University of California), Metcalf Laboratory (Brown University). Instructor in drawing, painting and design, Carnegie Institute of Technology.

Norman L. Rice

Graduate, University of Illinois (BA) and School of the Art Institute of Chicago. Dean, School of the Art Institute, Director, School of Art, Syracuse University. Professor of painting and Dean, College of Fine Arts, Carnegie Institute of Technology, 1954 to present.

Marta Sanchez

Graduate in music, University of Santiago de Chile, certificate and diploma, Institut Jacques Dalcroze, Geneva, Switzerland. Teaching experience (high school level) in Chile, University of Chile, Los Angeles (California) Conservatory, Carnegie Institute of Technology. Research in the use of computor techniques in analyzing creative processes in music (with members of the faculty of the Graduate School of Industrial Administration, Carnegie Institute of Technology).

Nelson Whitaker

B.A., University of California; Graduate study in piano, University of Texas. Concert pianist, teacher, Carnegie Institute of Technology since 1950. Graduate studies, musicology, University of Pittsburgh.

Douglas Wilson

Graduate, School of the Art Institute of Chicago.
(James Nelson Raymond Foreign Travel Fellowship)
Instructor, painting and design, the Art Institute of Chicago, Syracuse University, Carnegie Institute of Technology.
Represented in many national and international exhibitions and various collections. Has taught children at several grade levels as well as college students.